REMARKS

The Examiner is thanked for the performance of a thorough search. Claims 1-3 and 5-52 are pending in this application. The amendments to the claims do not add any new matter to this application. Furthermore, the amendments to the claims were made to improve the readability and clarity of the claims and not for any reason related to patentability. All issues raised in the Office Action mailed July 9, 2008 are addressed hereinafter.

I. ISSUES NOT RELATING TO PRIOR ART

A. CLAIMS - U.S.C. § 112, SECOND PARAGRAPH

The Office Action stated that claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants believe that the rejection is fully addressed by amended claim 5.

Reconsideration and withdrawal of the rejection is respectfully requested.

II. ISSUES RELATING TO PRIOR ART

A. CLAIMS -- 35 U.S.C. § 102(b): BERSTEIN

Claims 1, 6-8, 18, 24, 27, 29-31, 41, 47, 49 and 51-52 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Berstein (U.S. Patent 7,197,010). Applicants will address 35 U.S.C. § 102(e) rejection. The rejection is respectfully traversed.

CLAIM 1

Claim 1 recites:

1. A method for determining the source of audio signal degradation in an Internet Protocol A method for determining the source of audio signal degradation in an Internet Protocol (IP) telephony environment, the method comprising the computer-implemented steps of:

for each switching device of a plurality of switching devices that are configured on a network **along a path between a first endpoint and a second endpoint,**

storing a reference version of an audio signal waveform at an originating device;

transmitting, from the originating device to the switching device, the reference

version of the audio signal waveform;

receiving at the originating device from the switching device a second version of the

audio signal waveform that represents the waveform after transmission at least to

the switching device;

computing at the originating device audio signal degradation that occurred between

the originating device and the switching device by comparing the reference

version of the audio signal waveform with the second version of the reference

version of the audio signal waveform;

determining which switching device along the path between the first endpoint

and the second endpoint is the source of audio signal degradation based on

the audio signal degradations associated with each of the switching devices of

the switching devices; and

storing an identifier of the source of audio signal degradation.

Support for the amendment is provided in paragraphs [32]-[35], [39], [42], [45] and [48]

of the applicants' specification.

The Office Action states that Berstein describes "for **each switching device** of a plurality

of switching devices that are **configured on a network along a path between a first endpoint**

and a second endpoint, storing a reference version of an audio signal waveform **at an**

originating device, transmitting, from the originating device to the switching device, the

reference version of the audio signal waveform, **receiving at the originating device from the**

switching device a second version of the audio signal waveform that represents the waveform

after transmission at least to the switching device," in Berstein's columns 3, 5 and 7. This is

incorrect.

Berstein's voice quality system is based on testing of a point-to-point communication path for **only two endpoint devices**. Berstein's two devices can be located at two separate locations, and are called an "observation point A," and "observation point B." (Berstein: Col. 6, lines 14-16) Each of the two devices is able to transmit a reference signal via an IP network to another device, receive a transmitted reference signal from another device, compare the reference signal with the transmitted reference signal to, and send the two signals to a Network Management System ("NMS"). If the two signals differ, the NMS concludes that voice quality along the **whole path between the observation point A and the observation point B** was diminished. (Berstein: Fig. 2a; Fig. 3; Col. 3, lines 44-67; Col. 4, lines 1-5; Col. 6, lines 14-17; Col. 6, lines 52-67; Col. 7 lines 25-28) However, Berstein **cannot determine voice degradation for the individual hops located along the path between the two endpoints**.

Berstein does not describe a per-hop analysis of a multi-hop path comprising more than just two endpoints. Berstein does not test voice quality at each hop in a multiple-hop-path, and thus, Berstein cannot determine which IP network device along the multi-hop-path actually causes degradation of the audio signal. For example, if Berstein's two endpoint devices are adjacent, Berstein only tests the individual link between these two adjacent devices. To test a multi-hop-path, Berstein has to test each of the hops separately. This approach requires a significant increase of test complexity and data traffic in the IP network. In the alternative scenario, if Berstein's observation points are connected via a multi-hop-path, Berstein only tests the whole path, and is unable to determine which individual hop(s) along the multi-hop path actually caused the voice degradation.

In an alternative mode in Berstein, one of the two endpoint devices is configured only to loop back the packets received from the other device. (Berstein: Fig. 2b; Col. 7, lines 37-55) In this mode, Berstein only tests <u>voice quality of the whole closed loop between the two devices</u>. In this mode, Berstein cannot single-out the particular network device as the source of degradation of the voice signal. For example, if Berstein's endpoint devices are two directly-

linked network devices, Berstein only tests the whole loop, and is unable to determine which of the endpoint devices actually caused degradation of the voice signal. In the alternative scenario, if Berstein's endpoint devices are connected via a multi-hop path, Berstein only tests the whole loop, and is also unable to determine which individual hop(s) in the multi-hop path actually caused the voice degradation.

In sharp contrast to Berstein, according to claim 1, an originating device transmits a reference signal to a plurality of switching devices configured on a network along a path between a first endpoint and a second endpoint, receives from each of such switching devices a second version of the audio signal, and computes audio signal degradation that occurred between the originating device and each of the switching devices located along the path between the first endpoint and the second endpoint. This is not taught or suggested in Berstein because Berstein performs the transmitting, receiving and computing only from one device to another, and thus tests just one path at the time, and is unable to single-out the device of the multi-hop-path that causes voice degradation.

Further, Berstein does not describe "**determining which switching device [from a plurality of switching devices] along the path between the first endpoint and the second endpoint is the source of audio signal degradation based on the audio signal degradations associated with each of the switching devices of the switching devices.**" If Berstein two devices are directly linked, Berstein can only determine that one of the devices causes voice degradation, but Berstein does not know which one. If Berstein two devices are indirectly linked, Berstein cannot even determine whether any of the two devices causes voice degradation or whether any of the intermediate devices cases voice degradation.

In sharp contrast to Berstein, according to claim 1, it is determined which particular switching device from the plurality of switching devices configured on the network along the path between the first endpoint and the second endpoint is the source of audio signal degradation. According to claim 1, each of the switching devices from the plurality of switching devices

configured on the network along the path between the first endpoint and the second endpoint is can be tested separately, the single device that actually causes the audio signal degradation can be determined.

Therefore, claim 1 recites at least the above features that are not described in Berstein. Therefore, Berstein does not anticipate claim 1.

Reconsideration and withdrawal of the rejection are respectfully requested.

CLAIMS 18, 24, 41, 47, 49 AND 51-52

Claims 18, 24, 41, 47, 49 and 51-52 recite features similar to those in claim 1. Therefore, applicants believe that claims 18, 24, 41, 47, 49 and 51-52 is patentable over Berstein for the same reasons discussed for claim 1.

Reconsideration and withdrawal of the rejection are respectfully requested.

B. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, KEANE

Claims 2-3, 9-14, 17, 20, 25-26, 32-37, 40, 43, 45-46, 48 and stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010) and in further view of Keane (U.S. Publication No. 2002/0193999 A1). (Office Action, page 6) The rejection is respectfully traversed.

Claims 2-3, 9-14, 17, 20, 25-26, 32-37, 40, 43, 45-46, 48 depend directly or indirectly from independent claims 1, 18, 24, 41 and 47, respectively. As shown above, claims 1, 18, 24, 41 and 47 are not anticipated by Berstein. Further, Keane fails to cure the deficiencies of Berstein with respect to independent claims 1, 18, 24, 41 and 47. Therefore, Berstein and Keane, individually or in combination, fail to disclose the whole subject matter of independent claims 1, 18, 24, 41 and 47. Therefore, due to claims dependency, Berstein and Keane, individually or in combination, fail to disclose the whole subject matter of claims 2-3, 9-14, 17, 20, 25-26, 32-37, 40, 43, 45-46, 48.

Reconsideration and withdrawal of the rejection are respectfully requested.

C. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, BAKER

Claims 5, 21, 28 and 44 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010) and in further view of Baker (U.S. Publication No. 2004/0153716 A1). (Office Action, page 13) The rejection is respectfully traversed.

Claims 5, 21, 28 and 44 depend directly or indirectly from independent claims 1, 18, 24 and 47, respectively. As shown above, claims 1, 18, 24 and 47 are not anticipated by Berstein. Further, Baker fails to cure the deficiencies of Berstein with respect to independent claims 1, 18, 24 and 47. Therefore, Berstein and Baker, individually or in combination, fail to disclose the whole subject matter of independent claims 1, 18, 24 and 47. Therefore, due to claims dependency, Berstein and Baker, individually or in combination, fail to disclose the whole subject matter of claims 5, 21, 28 and 44.

Reconsideration and withdrawal of the rejection are respectfully requested.

D. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, REYNOLDS

Claims 15 and 38 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010) and in further view of Reynolds (U.S. Publication No. 2002/0136508). (Office Action, page 15) The rejection is respectfully traversed.

Claims 15 and 38 depend directly or indirectly from independent claims 1 and 24, respectively. As shown above, claims 1 and 24 are not anticipated by Berstein. Further, Reynolds fails to cure the deficiencies of Berstein with respect to independent claims 1 and 24. Therefore, Berstein and Reynolds, individually or in combination, fail to disclose the whole subject matter of independent claims 1 and 24. Therefore, due to claims dependency, Berstein and Reynolds, individually or in combination, fail to disclose the whole subject matter of claims 15 and 38.

Reconsideration and withdrawal of the rejection are respectfully requested.

E. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, BENNETT

Claims 16, 19, 39 and 42 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010) and in further view of Bennett (U.S. Publication No. 2004/0090921). (Office Action, page 16) The rejection is respectfully traversed.

Claims 16, 19, 39 and 42 depend directly or indirectly from independent claims 1, 18, 24 and 41, respectively.   As shown above, claims 1, 18, 24 and 41 are not anticipated by Berstein. Further, Bennett fails to cure the deficiencies of Berstein with respect to independent claims 1, 18, 24 and 41.   Therefore, Berstein and Bennett, individually or in combination, fail to disclose the whole subject matter of independent claims 1, 18, 24 and 41.   Therefore, due to claims dependency, Berstein and Bennett, individually or in combination, fail to disclose the whole subject matter of claims 16, 19, 39 and 42.

Reconsideration and withdrawal of the rejection are respectfully requested.

F. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, BAKER, KEANE

Claims 23, 46 and 50 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010) and in further view of Baker and Keane (U. S. Publication No. 2002/0193999 A1). (Office Action, page 17) The rejection is respectfully traversed.

Claims 23, 46 and 50 depend directly or indirectly from independent claims 18, 41 and 47, respectively.   As shown above, claims 18, 41 and 47 are not anticipated by Berstein. Further, Baker and Keane fail to cure the deficiencies of Berstein with respect to independent claims 18, 41 and 47.   Therefore, Berstein, Baker and Keane, individually or in combination, fail to disclose the whole subject matter of independent claims 18, 41 and 47.   Therefore, due to claims dependency, Berstein, Baker and Keane, individually or in combination, fail to disclose the whole subject matter of claims 23, 46 and 50.

Reconsideration and withdrawal of the rejection are respectfully requested.

G. CLAIMS -- 35 U.S.C. § 103(a): BERSTEIN, BAKER, BENNETT

Claims 22 and 45 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Berstein (U.S. Patent 7,197,010), Baker (U.S. Publication No. 20040153716) and in further view of Bennett (U.S. Publication No. 2004/0090921). (Office Action, page 17) The rejection is respectfully traversed.

Claims 22 and 45 depend directly or indirectly from independent claims 18 and 41, respectively.   As shown above, claims 18 and 41 are not anticipated by Berstein. Further, Baker and Bennett fail to cure the deficiencies of Berstein with respect to independent claims 18 and 41. Therefore, Berstein, Baker and Bennett, individually or in combination, fail to disclose the whole subject matter of independent claims 18 and 41.   Therefore, due to claims dependency, Berstein, Baker and Bennett, individually or in combination, fail to disclose the whole subject matter of claims 22 and 45.

Reconsideration and withdrawal of the rejection are respectfully requested.

H.   DEPENDENT CLAIMS

The claims that are not discussed above depend directly or indirectly on the claims that have been discussed. Therefore, those claims are patentable for the reasons given above. In addition, each of the dependent claims separately introduces features that independently render the claim patentable. However, due to the fundamental differences already identified, and to expedite positive resolution of the examination, separate arguments are not provided for each of the dependent claims at this time.

III.   CONCLUSIONS

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested.

If any applicable fee is missing or insufficient, the Commissioner is authorized throughout the pendency of this application to charge any applicable fee to our Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

Date: September 18, 2008

/MalgorzataAKulczycka#50496/
Malgorzata A. Kulczycka
Reg. No. 50,496

2055 Gateway Place, Suite 550
San Jose, California 95110
Telephone: (408) 414-1228
Facsimile: (408) 414-1076